MINOS+ Status Report

Donatella Torretta

All Experimenters' Meeting

March 7, 2016

Near Detector

DAQ

- Power outage on Friday evening ~10:00 pm
- Recovered electronics & computers in a few hours on Saturday morning but timing issues prevented to take data until Sunday evening (more later)
- Magnet was recovered ~1:00 pm
  - AcNet Power ON/OFF procedure got stuck
  - We had to manually revert the magnet polarity and then we were able to power up the magnet via AcNet
  - Walt Jaskierny was contacted over the phone and walked us thought the procedure. Thanks!

Electronics/Detector issues

- One whole hot Minder last week
  - Replaced the board last Thursday during beam downtime

ND Timing issues

- After restoring everything underground, we could not start a run to timing errors between GPS/PPS and computers
- In the attempt of re-synchronizing the system we rebooted the computers again and the timing pc (minos-daq09-nd) this time failed booting due to “fsck” error
- We switched back to the other timing pc minos-daq08-nd (that was our production machine until this past January, when the GPS date switched back to 1996 and caused analogous “fsck” error)
- After switching back to minos-daq08-nd, we changed all ntp config files on all other daq computers to point to the new timing PC, restarted ntpdate etc. to no avail
- At this point we contacted the timing experts who actually implemented the whole system back in ~2003-4
- With the help of Giles Barr, from UK, we eventually tracked down the problem to a ‘wrong’ little file /etc/tg.drift that is used by the TimeGoblin program to adjust the overall timing looking at the computer’s local clock
- With the correct value in the file, everything re-synched and we were able to start running again yesterday night: lost ~26 hours of beam

Far Detector

DAQ

- Running very well
- Two DAQ crashes recovered in minutes
- Unfortunately the data taken over the weekend are BAD, since there is no GPS nor Spill information recorded due to the ND timing issues

Electronics/Detector news

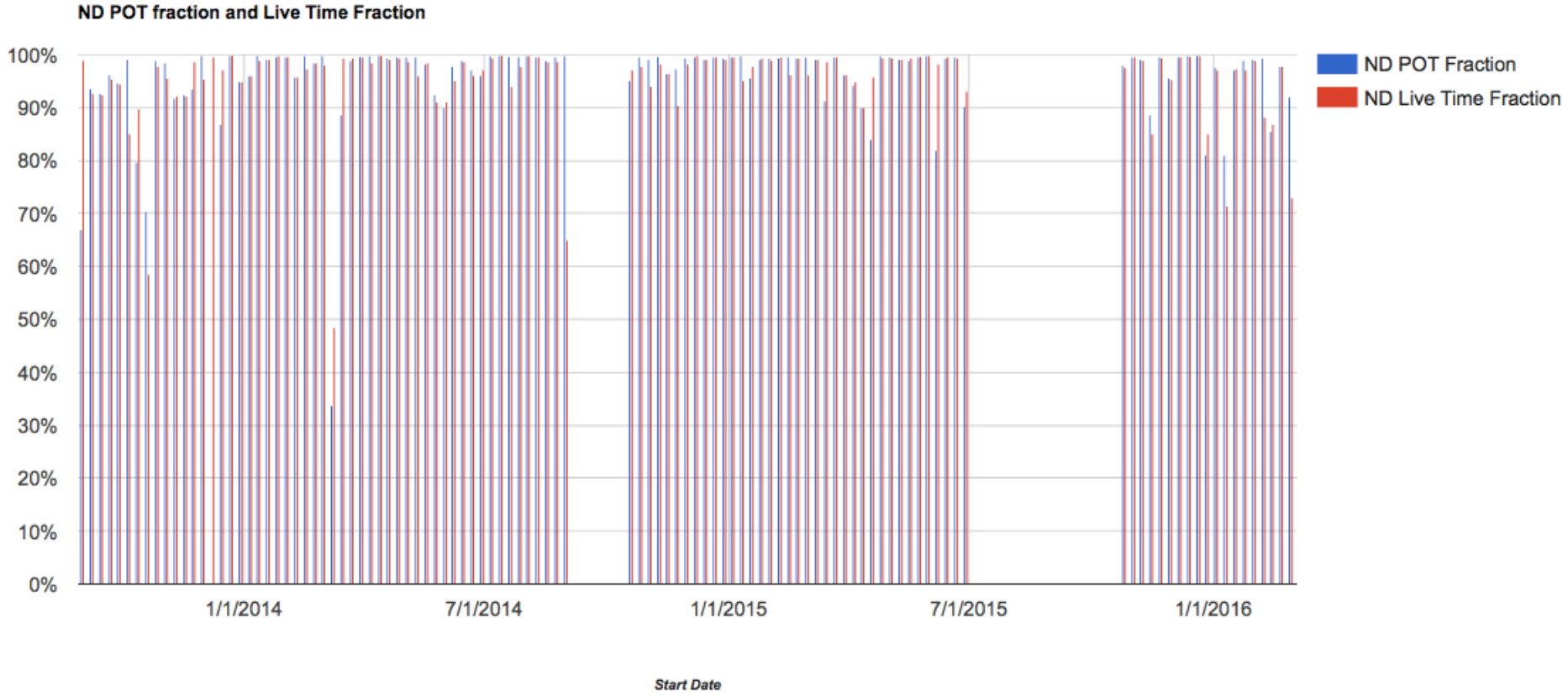
- No hardware issues
- Taking CI special runs during beam downtimes
- Some Chiller alarms that do NOT impact data taking nor quality

MINOS+ Status

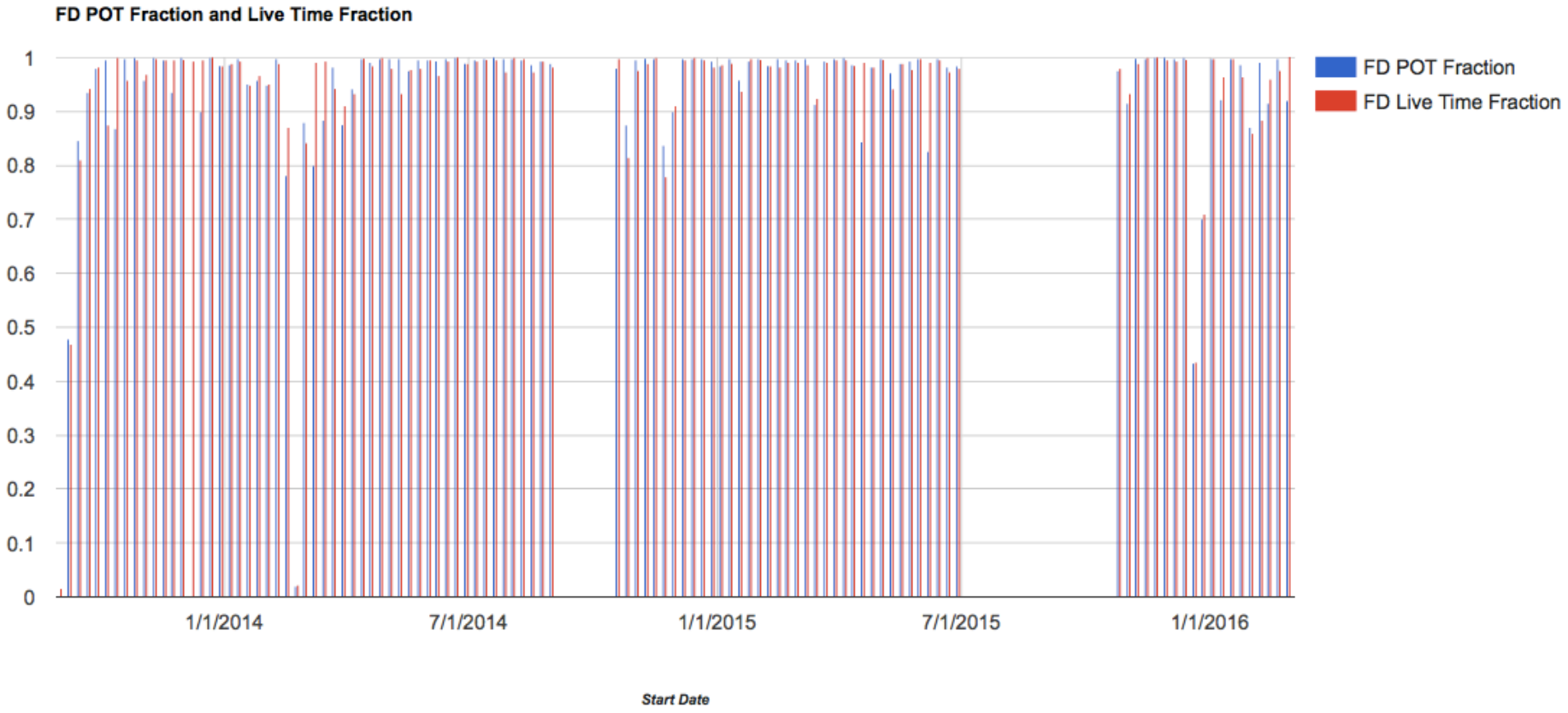
		Near Detector		Far Detector	
Start Date/Time	End Date/Time	POT Fraction	Live Time Fraction	POT Fraction	Live Time Fraction
1/4/2016 00:00:00	1/11/2015 00:00:00	97.5%	97.1%	99.8%	99.8%
1/11/2016 00:00:00	1/18/2016 00:00:00	81.0%(&)	71.5%(&)	92.1%	96.5%
1/18/2016 00:00:00	1/25/2016 00:00:00	97.1%	97.3%	99.7%	99.8%
1/25/2016 00:00:00	2/1/2016 00:00:00	98.8%	97.2%	98.7%	96.5%
2/1/2016 00:00:00	2/8/2016 00:00:00	99.1%	99.8%	87.2%	86%
2/8/2016 00:00:00	2/15/2016 00:00:00	99.4%	88.2%(#)	99.2%	88.3%(#)
2/15/2016 00:00:00	2/22/2016 00:00:00	86%	87%(*)	95%	96%
2/22/2016 00:00:00	2/29/2016 00:00:00	98%	98%	99%	98%
2/29/2016 00:00:00	3/06/2016 00:00:00	92%	73%(!!)	92%	92%(!!)

(&) Numi Breaker power glitches (#) GPS/Timing issues (*) Ntp config file owerwitten (!!) ND GPS Timing issues

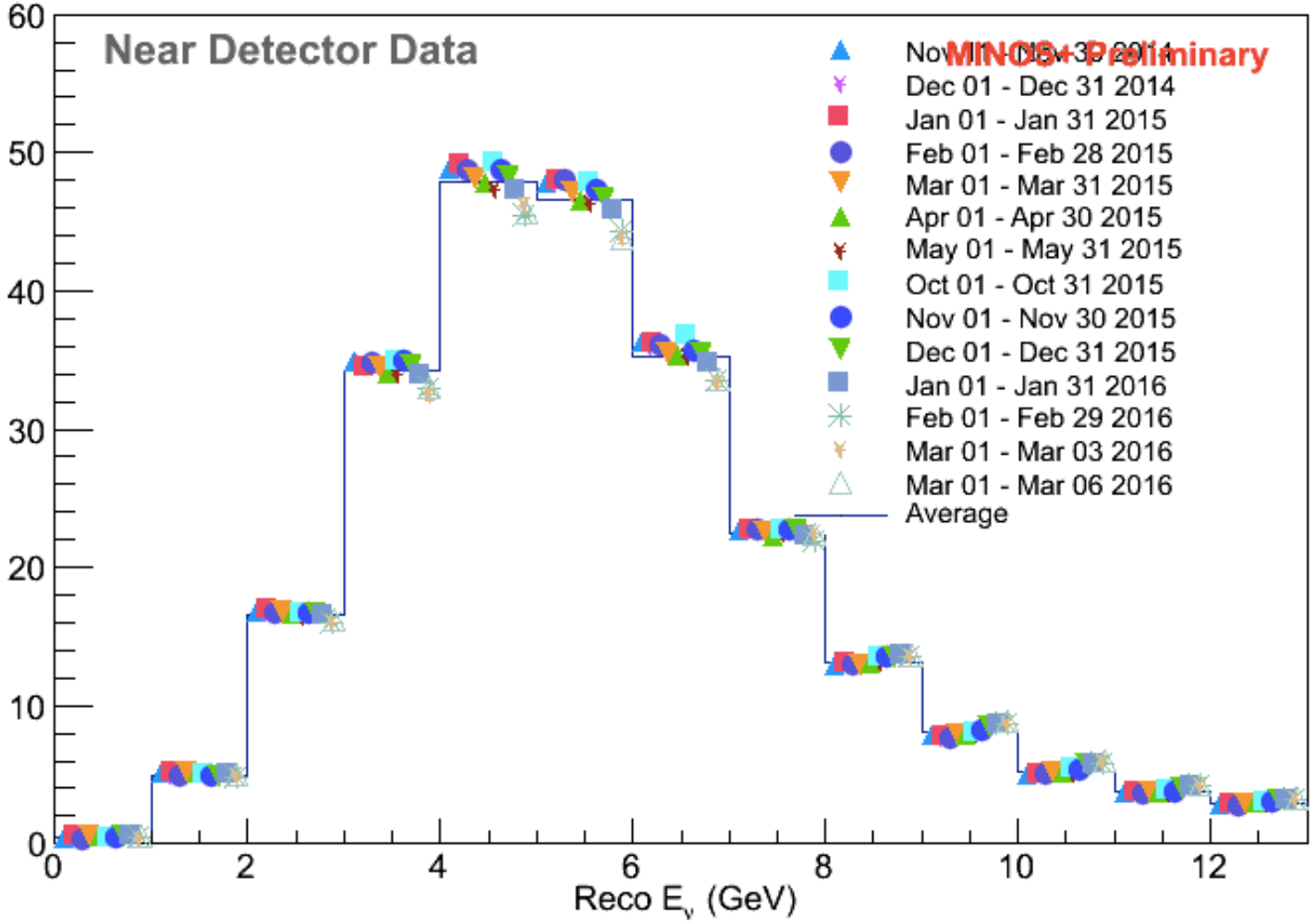
MINOS+ ND Status



MINOS+ FD Status



Neutrino Energy Spectrum Stability (PQ and NQ)



- People are investigating batch by batch effects and putting together a set of key plots to show

Events/POT + Intensisity